



Process Analyzer

In 1990, Axiomatics Corporation, Woburn, Massachusetts was awarded a NASA Small Business Innovation Research contract for development of a sensing and measurement device to be used in the Controlled Ecological Life Support System (CELSS) at Kennedy Space Center. Under that contract, Axiomatics developed the DiComp™ Shunting Dielectric Sensor to determine the nutrient level and analyze plant nutrient solutions in the CELSS, an experimental facility investigating closed-cycle plant growth and food processing for long duration manned missions.

Axiomatics then further developed the DiComp system

for similar measurement needs in commercial process analysis. The resulting product is the DiComp Process Analyzer, introduced in October 1992.

The analyzer is based on the Shunting Dielectric Sensor developed for NASA, described by Axiomatics as a "break-through" device. The innovation was accomplished by incorporating a shunt electrode into a conventional field sensor. This makes the DiComp sensor especially sensitive to changes in the dielectric property changes in materials, at measurement frequencies much lower than conventional sensors. It gives the analyzer exceptional capabilities for

predicting the composition of liquid streams or reactions.

The DiComp Process Analyzer measures concentrations and solids content up to 100 percent in a wide range of applications, among them agricultural products, chemical and petrochemicals, food and beverages, polymers and textiles for both process-oriented and analytical customers. The DiComp sensor features easy installation and low maintenance. DiComp is designed to be easily calibrated on-line, so process streams can be calibrated in place. DiComp software automates data collection and analysis. ●

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